

Attorney Docket No. 259/175

REMARKS

Prior to and after the present amendment, claims 1-5, 7-16, 19, 20, 22, 24, and 25 were pending, all of which were rejected in the February 13, 2003 Office Action. Claims 1, 8, and 22 are hereby amended to recite further structure of the claimed invention.

Obviousness Rejections - Refouvelet + Taylor or Craig

All claims stand rejected as obvious primarily over U.S. Patent No. 5,576,509 to Refouvelet et al. ("Refouvelet") in combination with either of U.S. Patent No. 2,741,179 to Taylor et al. ("Taylor") or U.S. Patent No. 3,906,858 to Craig et al. ("Craig"). All pending claims are limited to an automotive pyrotechnic initiator and to an overmolded body that provides structural support and installation orientation features. Nevertheless, all pending claims stand rejected based on the foregoing combination further combined with one or more of three other references.

Neither Refouvelet, Taylor, or Craig, nor any of the other cited references, whether taken singly or in any combination, disclose or suggest an automotive pyrotechnic initiator having a molded, integral, unitary, electrically non-conductive overmolded body connected to and surrounding substantially of the initiator and providing structural support and installation orientation features, as is now recited, *inter alia*, in pending claims 1-5, 7-16, 19, and 20. The present invention discloses a novel and useful automotive pyrotechnic initiator having a molded, integral, unitary, electrically non-conductive overmolded body, which as disclosed can now be achieved in a single-step process. Thus, the installation features of the automotive initiator body, and electrical insulation for the automotive initiator, can now be efficiently provided in a single part and a single corresponding manufacturing step. To Applicant's knowledge, prior to the present invention, it was neither known nor expected that such a solution could be practically obtained for an automotive initiator.

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R fouvelet

As the Examiner notes at page 4 of the Office Action, "Refouvelet et al do not disclose, in Fig. 1, the electrically non-conductive overmolded body surrounding substantially all of the initiator subassembly." This, however, is the crux of the present invention.

As previously noted, the "endplate" discussed in the Refouvelet abstract is just the eyelet or header, and should not be construed as teaching or suggesting that a molding could extend around the top end portion of the initiator. To the contrary, in Fig. 1, the molding stops conventionally near the middle of the initiator, and in Fig. 2, a separate pre-formed portion is attached - not molded - onto the top end above the molded body. Thus, in terms of the prior art it presents to the present application, the Refouvelet disclosure simply represents a standard, conventional initiator with a molded body that is not overmolded.

The Examiner asserts that this portion of the Refouvelet abstract, because it states that the molding surrounds "at least" the endplate, "implies that the molded plastics material could surround the upper portion of the initiator. It is respectfully submitted that this is simply not true. The mere suggestion that something else than the header (endplate) could be covered does not imply that the entire initiator could be covered. To the contrary, considered in light of the numerous patents combined or otherwise cited by the Examiner (and endless other patents in the field) - in which every other design has stopped far short of surrounding the entire initiator, and has instead placed a separate cup over the top of the initiator (i.e., a two-piece design) - it is clear that such a suggestion would not have been apparent to one of ordinary skill in the art considering the Refouvelet patent at the time of filing of the present application. (In fact, the cited patents further evidence the fact that it was not obvious to employ a one-piece design).

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Taylor or Craig

With regard to the critical aspect of the present invention not found in Refouvelet or any other known applicable reference (namely, the body surrounding substantially all of the initiator except for the connector), the Examiner then states that "[b]oth Taylor et al and Craig et al teach that it is old and well known in the art to substantially surround all of an initiator except for an exposed portion of a connector end with an electrically-nonconductive overmolded body surrounding substantially all of the initiator subassembly to form a protective casing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the overmolded [sic, molded] plastic body to surround substantially all of the initiator subassembly of the Refouvelet et al initiator to form a protective casing, as taught by either Taylor et al or Craig et al." [Office Action, page 3].

That assertion, however, is again respectfully traversed. Craig and Taylor both teach thin coverings that do not appear to be injection-molded and do not contribute in any way to solving the problem overcome by Applicant of how to provide an initiator with a one-piece molded body that could provide structural support or any installation orientation features. The pyrotechnic devices of Craig and Taylor are also inapposite to an automotive initiator such as is now recited in the pending claims. For example, attempting to apply the rubberlike coating of Taylor to an automotive initiator would not result in a useful device, and would not advance any knowledge of how to extend a conventionally molded body of an automotive initiator (such as that of Refouvelet) fully around the initiator as in the present invention. Indeed, it is the teaching of the present application (in particular, page 2, line 24 to page 4, line 10) that provides this novel and useful advance, and a solution that has heretofore not been conceived.

Further, for those same reasons, there would have been no motivation for one of ordinary skill in the art at the time of the invention to attempt to apply the rubberlike coating of the detonator taught by Taylor to any automotive initiator such as that taught by Refouvelet. Because the construction and manufacturing techniques relevant to the Taylor detonator are so dissimilar to those of automotive

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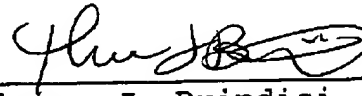
initiators (e.g., the detonator has a matchhead rather than an initiator charge that is directly hermetically enclosed by a can, the detonator simply has wire leads at its end rather than a highly defined connector end, the detonator's rubberlike coating does not provide any support or engagement feature, etc.), one of ordinary skill in the art away would have been directly discouraged from any such attempt as it would have been useless.

Conclusion

For the foregoing reasons, it is respectfully requested that the presently amended application be allowed. The Examiner is invited to contact the undersigned by telephone if desired.

Respectfully submitted,
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